## Amendments to the Claims

1. (Currently Amended) A computer implemented method for producing a data domain for a data structure element of an executable computer program to be used to target efficient testing of behavior of the program when executed, the executable computer program having been compiled into executable form, the method comprising:

receiving domain configuration information corresponding to the data structure element;

~~receiving~~ reading a reflection of the executable computer program during a first execution of the program;

producing the data domain based on the domain configuration information and the reflection of the executable computer program, the data domain representing a limited set of data values to be used as input during a subsequent second execution of the computer program for testing the executable computer program when executed;

targeting testing during the second execution of the executable computer program to use only values for the data structure element that fall within the data domain; and

determining whether the executable computer program behaves correctly during the second execution when executing using targeted values falling within the data domain as input.

2. (Cancelled)

3. (Original) The method of claim 1, wherein the reflection of the computer program comprises a listing of data structure elements of the computer program.

4. (Original) The method of claim 1 further comprising annotating code of the computer program with the domain configuration information.

5. (Original) The method of claim 4, further comprising compiling the code of the computer program annotated with the domain configuration information for producing the data domain according to its domain configuration information.

6. (Cancelled)

7. (Original) The method of claim 1, wherein the domain configuration information comprises one or more expressions for explicitly denoting the data domain to be produced corresponding in form to one that is applicable to the data structure element.

8. (Original) The method of claim 7, wherein the expressions comprise methods and functions defined within the code of the computer program, which are exposed via the reflection of the computer program.

9. (Original) The method of claim 7, wherein the data structure element is a data type with one or more fields and the form of the explicitly expressed data domain is a set of values of the fields comprising the data type.

10. (Original) The method of claim 7, wherein the data structure element is a method and the form of the explicitly expressed data domain is a set of tuples of parameters of the method.

11. (Original) The method of claim 7, wherein the data structure element is a field or a parameter of a designated type and the form of the explicitly expressed data domain is an enumeration of values of the designated type corresponding to the field or the parameter.

12. (Original) The method of claim 1, wherein the domain configuration information comprises information related to inheriting the data domain to be produced from the data domain of other related data structure elements.

13. (Original) The method of 12, wherein the data structure element is a data type comprising a plurality of sub-types and the domain configuration information comprises a selection of one or more of the plurality of sub-types wherein the data domain to be produced for the data type is a union of data domains of the sub-types belonging to the selection.

14. (Original) The method of claim 12, wherein the data structure element is a field or a parameter of a designated type and the domain configuration information comprises information indicating that the data domain to be produced for the field or the parameter is inherited from the data domain of their designated type.

15. (Original) The method of claim 1, wherein the domain configuration information comprises information related to producing the data domain for the data structure element by applying domain generation techniques on other selected data domains.

16. (Original) The method of claim 15, further comprising filtering the result of the applying domain generation technique step using a predicate.

17. (Original) The method of claim 15, wherein the data structure element is a data type with a plurality of fields and the other data domains are data domains of the fields.

18. (Previously Presented) The method of claim 15, wherein the data structure element is a method and the other data domains are data domains of parameters of the method.

19. (Currently Amended) A system for producing a data domain for a data structure element of an executable computer program to be used to target efficient testing of the program when executed, the executable computer program having been compiled into executable form, the system comprising:

a computer apparatus configured to perform the actions of a domain configuration manager for:

receiving domain configuration information corresponding to the data structure element;

producing a reflection of the executable computer program during a first execution of the program;

using [[a]] the reflection of the executable computer program ~~produced during a first execution of the program~~ to produce the data domain for the data structure element according to the domain configuration information, the data domain representing a limited set of data values to be used as input for testing the executable computer program when executed; and

controlling testing during a second execution of the executable computer program to use only values for the data structure element that fall within the data domain.

20. (Original) The system of claim 19, further comprising a graphical user interface communicative with the domain configuration manager for receiving the domain configuration information and transferring the domain configuration information to the domain configuration manager.

21. (Original) The system of claim 19, wherein the domain configuration manager comprises a graphical user interface for receiving user input related to the domain configuration information.

22. (Original) The system of claim 19, wherein the domain configuration manager is operable for reading the reflection of the computer program to identify the data structure element for its domain configuration.

23. (Original) The system of claim 19, wherein the data structure element is a data type and the domain configuration manager is operable for producing the data domain for the data type according to an explicit expression indicative of the data domain of the data type.

24. (Original) The system of claim 23, wherein the explicit expression comprises methods and functions defined within the computer program and exposed to the domain configuration manager via the reflection of the computer program.

25. (Original) The system of claim 19, wherein the data structure element is a method and the domain configuration manager is operable for producing the data domain as a set of tuples of parameters of the method according to an explicit expression of the domain configuration information.

26. (Original) The system of claim 19, wherein the data structure element is a field or a parameter of a declared type and the data configuration manager is operable for producing the data domain according to an explicit expression whose result is an enumeration of values of the declared type.

27. (Original) The system of claim 19, wherein the data structure element is a data type with sub-types and the data configuration manager is operable for producing the data domain for the data type through inheritance as a union of data domains of its selected sub-types.

28. (Original) The system of claim 19, wherein the data structure element is a data type and the data configuration manager is operable for producing the data domain for the data type by applying a domain generation technique to one or more fields of the data type.

29. (Original) The system of claim 28, wherein the domain generation technique is a Cartesian product of the selected fields of the data type and the domain configuration manager is further operable for applying a constraint specified in the domain configuration information to the Cartesian product for producing the data domain for the data type.

30. (Original) The system of claim 19, wherein the data structure element is a field or a parameter of a declared type and the domain configuration manager is operable for producing the data domain for the field or the parameter as the data domain of their respective declared type through inheritance.

31. (Original) The system of claim 19, wherein the data structure element is a method and the domain configuration manager is operable for producing the data domain for the method by applying a domain generation technique to the parameters of the method.

32. (Original) The system of claim 31, wherein the domain configuration technique is a Cartesian product of the data domains of the parameters of the method and the data configuration manager is further operable for applying a constraint to the result of the Cartesian product for producing the data domain for the data type.

33. (Currently Amended) A computer-based system for producing data domains of data structure elements of an executable computer program to be used to target efficient testing of the program when executed, the executable computer program having been compiled into executable form, the system comprising:

a computer apparatus;

means for receiving, on the computer apparatus, domain configuration information corresponding to the data structure elements;

means for ~~reading~~ obtaining, on the computer apparatus, a reflection of the executable computer program during a first execution of the program;

means for processing, on the computer apparatus, the domain configuration information and the reflection to produce and output the data domains corresponding to the data structure elements, the data domains representing a limited set of data values to be used as input during a second execution of the computer program for testing the computer program when executed; and

means for limiting testing during the second execution of the executable computer program to use only values for the data structure element that fall within the data domain.